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(21) International Application Number: <b>PCT/US96/04407</b> (22) International Filing Date: <b>28 March 1996 (28.03.96)</b> (30) Priority Data: 08/412,066      28 March 1995 (28.03.95)      US 60/006,627      13 November 1995 (13.11.95)      US (60) Parent Applications or Grants (63) Related by Continuation US      08/412,066 (CIP) Filed on      28 March 1995 (28.03.95) US      60/006,627 (CIP) Filed on      13 November 1995 (13.11.95) (71) Applicant (for all designated States except US): <b>THOMAS JEFFERSON UNIVERSITY [US/US]; 11th and Walnut Streets, Philadelphia, PA 19107 (US).</b> (72) Inventors; and (75) Inventors/Applicants (for US only): <b>PROCKOP, Darwin, J. [US/US]; 291 Locust Street, Philadelphia, PA 19106 (US). PEREIRA, Ruth, F. [IN/US]; 2nd floor, 101 E. Baltimore Avenue, Lansdowne, PA 19050 (US). LEEPER, Dennis, B. [US/US]; 21 Meredith Road, Wynnnewood, PA 19096 (US).</b>		O'HARA, Michael, D. [US/US]; 6 Underwood Road, Wyncote, PA 19095 (US). KULKOSKY, Joseph [US/US]; 6731 Martins Mull Road, Philadelphia, PA 19111 (US). PHINNEY, Donald [US/US]; 1841 Webster Lane, Maple Glen, PA 19002 (US). LAPTEV, Alexey [RU/US]; Apartment 1-F, 917 Pine Street, Philadelphia, PA 19107 (US). CARO, Jose [US/US]; 1227 Lafayette Road, Gladwyn, PA 19035 (US). (74) Agents: <b>JOHNSON, Philip, S. et al.; Woodcock Washburn Kurtz Mackiewicz &amp; Norris, 46th floor, One Liberty Place, Philadelphia, PA 19103 (US).</b> (81) Designated States: <b>CA, JP, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</b>  <b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
(54) Title: <b>ISOLATED STROMAL CELLS AND METHODS OF USING THE SAME</b>			
(57) Abstract  Methods of treating patients who are suffering from a disease, disorder or condition characterized by a bone cartilage or lung defect are disclosed. The methods comprising the step of intravenous administration of stromal cells isolated from normal syngeneic individuals or intravenous administration of stromal cells isolated from the patient subsequent to correction of the genetic defect in the isolated cells. Implant devices comprising a container that has at least one membrane surface and stromal cells isolated from bone marrow that comprise a gene construct are disclosed. The gene construct in the stromal cells comprises a nucleotide sequence that encodes a beneficial protein operably linked to regulatory elements which function in stromal cells. Methods of treating individuals with diseases, disorders or conditions which can be treated with a beneficial protein, including diseases, disorders or conditions characterized by gene defects are disclosed. The methods comprise introducing into such individuals, stromal cells that are administered in a manner that physically isolates them from the recipient's immune system and that comprise a gene construct that comprises a nucleotide sequence that encodes a beneficial protein operably linked to regulatory elements which function in stromal cells.			

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